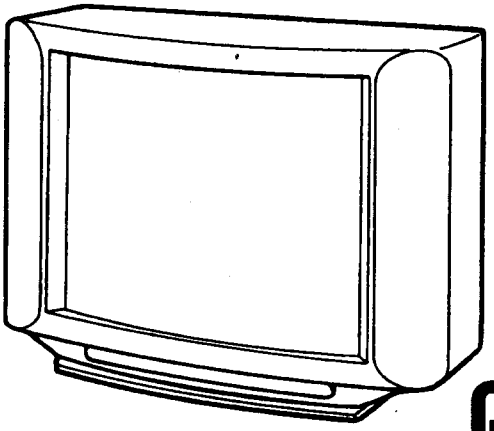
KV-2565AS/2965AS

RM-827S

SERVICE MANUAL

Australian Model

KV-2565AS
Chassis No. SCC-D23N-A
KV-2965AS
Chassis No. SCC-D23M-A



GP-1A CHASSIS

MODELS OF THE SAME SERIES	
KV-2565AS/2965AS	
KV-2566AS/2966AS	
KV-2566SNT/2966SNT	

SPECIFICATIONS

Power requirements 220 – 240 V AC, 50/60 Hz
Power consumption Indicated on the rear of the TV
Color system PAL, PAL60, $NTSC_{4.43}$, $NTSC_{3.58}$ (AV in)

Television system and Channel coverage

Television system	B/G
Low VHF band	0–5, 5A
High VHF band	6–11
UHF	28–69
CATV	S01–S03 S1–S20

Audio output 6 W + 6 W speaker
Inputs
Antenna: 75 ohms
VIDEO INPUT jacks: phono jacks
Video: 1 Vp-p, 75 ohms
Audio: 500 mVrms, high impedance
S-TERMINAL VIDEO INPUT jack:
4-pin DIN

Outputs
MONITOR OUT jacks: phono jacks
Video: 1 Vp-p, 75 ohms
Audio: 500 mVrms, low impedance

Model KV-	2565	2965
Picture tube Approx. cm (inches)	64 (25)	72.4 (29)
Dimensions (w/h/d, mm)	689 × 513 × 494	782 x 577 x515
Weight (kg)	35	44.5

Design and specifications are subject to change without notice.

MICROFILM

TRINITRON® COLOR TV

SONY®

TABLE OF CONTENTS

Section	Title	Page
1. GENERAL		
1-1.	Antenna Connection	3
1-2.	Connecting a VTR or Other Equipment	3
1-3.	Presetting TV Channels	5
1-4.	Watching the TV	5
1-5.	Watching the Video Input	5
1-6.	Adjusting the Picture and Sound	6
1-7.	Using Convenient Features	7
1-8.	Troubleshooting	7
2. DISASSEMBLY		
2-1.	Rear Cover Removal	8
2-2.	Service Position	8
2-3.	K Board Removal	9
2-4.	Picture Tube Removal	10
3. SET-UP ADJUSTMENTS		
3-1.	Beam Landing	11
3-2.	Convergence	12
3-3.	Focus	14
3-4.	Screen (G2) and White Balance	14
4. CIRCUIT ADJUSTMENTS		
4-1.	A Board Adjustments	15
4-2.	F Board Adjustment	16
5. DIAGRAMS		
5-1.	Block Diagrams	17
5-2.	Circuit Boards Location	23
5-3.	Schematic Diagrams and Printed Wiring Boards	
(1)	Schematic Diagrams of F, F1, H and K Boards	27
(2)	Schematic Diagram of A Board	31
(3)	Schematic Diagrams of C and V4 Boards	38
5-4.	Semiconductors	41
6. EXPLODED VIEWS		
6-1.	Chassis	43
6-2.	Picture Tube	44
7. ELECTRICAL PARTS LIST		45

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

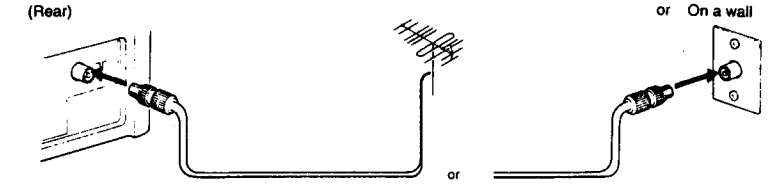
SECTION 1
GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

1-1. ANTENNA CONNECTION

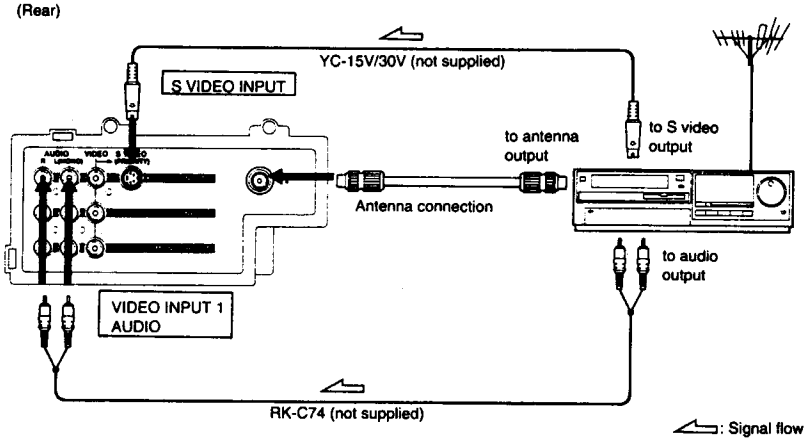
To connect a VHF antenna or a combination VHF/UHF antenna – 75-ohm coaxial cable (round)

Plug the connector into the "I" socket of the TV.

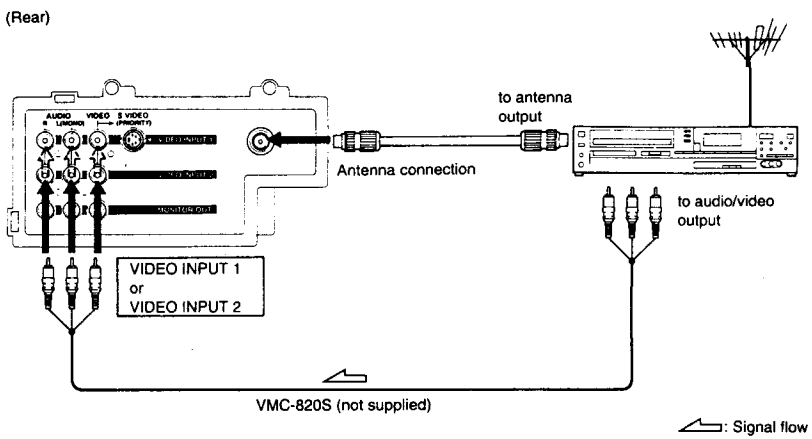


1-2. CONNECTING A VTR OR OTHER EQUIPMENT

Connecting a VTR Equipped with the S Video Output Connector

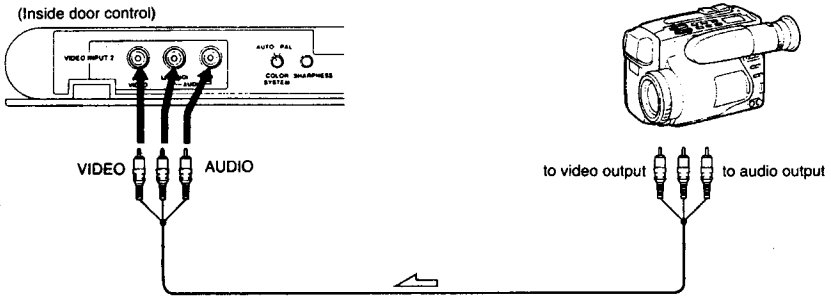


Connecting a VTR or Other Equipment not Equipped with an S video Output Jack



Connecting a VTR or Camcorder to the VIDEO INPUT Jacks on the Front

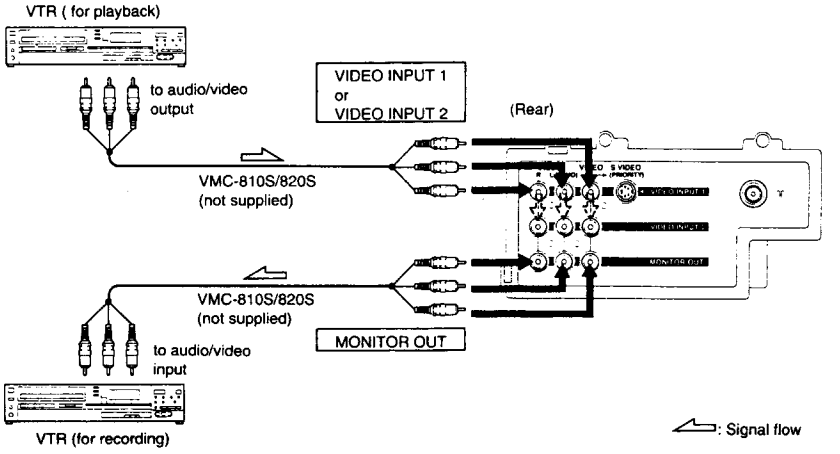
This TV is equipped with 2 sets of VIDEO INPUT 2 jacks. 2 sets are not available to be used at the same time. When using equipment connected, turn off other equipment not in use. For connection, use a commercially available connecting cord.



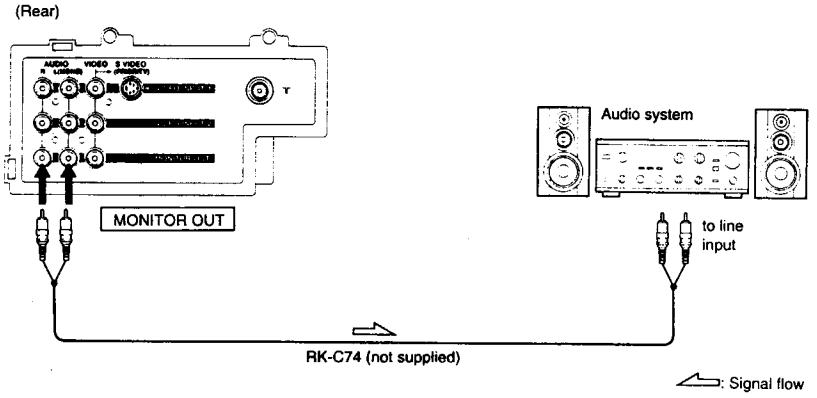
Note

If you connect monaural equipment, connect the audio output of the VTR to L (MONO) jack of VIDEO INPUT 2. The monaural sound will be heard from both speakers.

Connecting two VTRs for Tape Editing



Connecting an Audio System



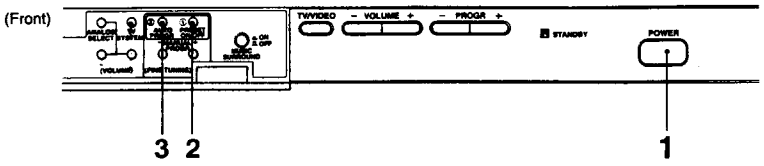
Note

If you connect monaural equipment, connect the equipment to the L (MONO) jack.
The monaural sound will be heard from both speakers.

1-3. PRESETTING TV CHANNELS

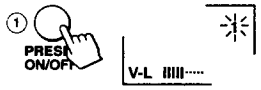
Presetting TV channels automatically

You can preset up to 30 channels automatically to the program position numbers (0 to 29) in numerical sequence from channel number 1.

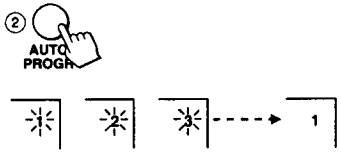


1 Press the POWER button.

2 Press the PRESET ON/OFF button ①.



3 Press the AUTO PROGR button ②.



Manual Presetting

To change the program number for a channel, or to receive a channel of weak signal, preset the channel manually.
Example: To preset a channel in program number 8

1 Press the PRESET ON/OFF button.

2 Press the PROGR +/– buttons until "8" appears.

3 Press the TV SYSTEM button to select your TV system.

4 Press the MANUAL PROGR +/– buttons until the channel you want appears.

5 Press the PRESET ON/OFF button.

To preset other channels
Repeat steps 1 through 5.

Skipping Program Positions

You can skip the unused or undesired program position when you are selecting a program using the PROGR +/– buttons.
Example: To skip the program position 8

1 Press the PROGR +/– buttons until "8" appears.

2 Press the PRESET ON/OFF button.

3 Press the PIC MODE button on the Remote Commander.

4 Press the PRESET ON/OFF button.

To skip other channels
Repeat steps 1 through 3.

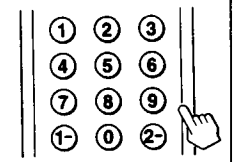
To cancel the skip setting
Preset the station manually as described in "Manual Presetting", or preset automatically again.

1-4. WATCHING THE TV

To switch on or off the TV

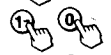
The TV power is turned on or turned off completely.

To select a channel



To select 8

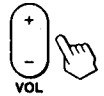
To select 10



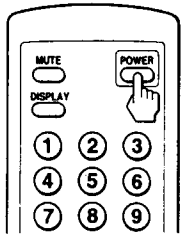
To select 25

or

To adjust the volume



To set the TV to standby mode



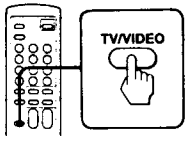
To turn on the TV, press the POWER button again or press the channel number buttons or the PROGR +/– buttons.

Note
You can also use the buttons on the TV that have the same function.

1-5. WATCHING THE VIDEO INPUT

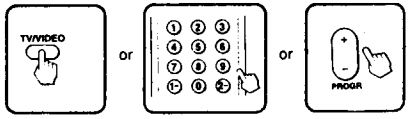
1 Press the TV/VIDEO button on the Remote Commander.

2 Set the VTR to playback mode.



To return to TV mode
Press the TV/VIDEO button, the channel number buttons, or the PROGR +/– buttons.

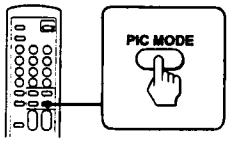
Note
Do not use the VTRs connected to the front and rear A/V connectors simultaneously. When you use a VTR, turn off or disconnect another VTR.

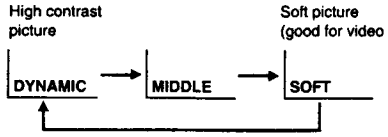


1-6. ADJUSTING THE PICTURE AND SOUND

Selecting the Picture Mode

Press the PIC MODE button.

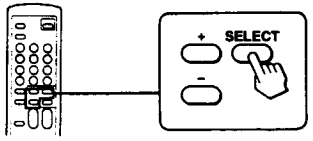


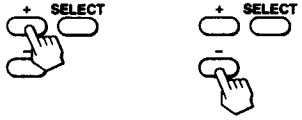


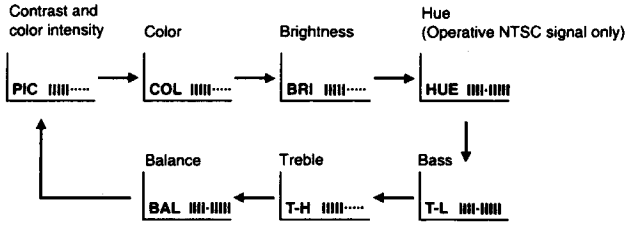
Adjusting the Picture and Sound Quality

1 Select the adjustment item using the SELECT button on the Remote Commander (or ANALOG SELECT button on the TV).

2 Adjust using the + and – buttons.



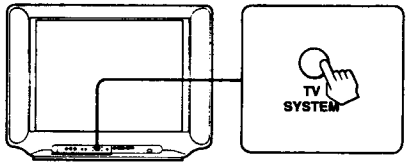




Note

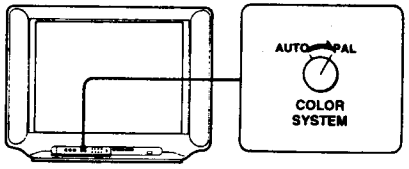
If you change the PIC MODE setting after making the above adjustments, the adjustment changes according to the PIC MODE setting, and COL (color), BRI (brightness) and HUE return to their original factory settings.

To set TV SYSTEM



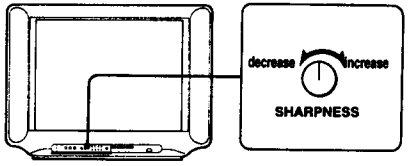
If the sound is distorted or noisy, or color is abnormal while receiving a program through the VHF/UHF terminal, press TV SYSTEM until clear sound or normal color is obtained. The TV system set by this operation is memorized for the program position.

To set COLOR SYSTEM



Normally, set COLOR SYSTEM to AUTO.
If the color reproduction is not normal (for example, the picture turns red or blue) while receiving PAL and PAL 60 playback signal, set to PAL. The picture color will become normal.

Adjusting SHARPNESS

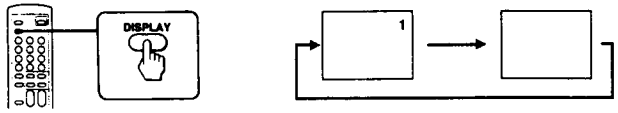


Turn SHARPNESS clockwise to increase sharpness and counterclockwise to decrease sharpness.

1-7. USING CONVENIENT FEATURES

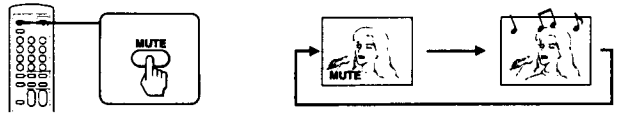
Tuning On or Off the On-screen Display

Press the DISPLAY button.



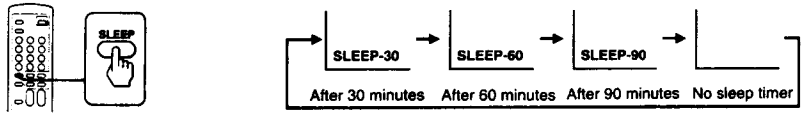
Muting

Press the MUTE button.



Setting the Sleep Timer

The TV will be turned off after about 30, 60, or 90 minutes.
Press the SLEEP button.



To cancel the sleep timer
Press the SLEEP button until the sleep display disappears.

Setting a MUSIC SURROUND Mode

Set MUSIC SURROUND to ON during a stereo sound reproduction.
You receive a theatrical audio effect or live concert effect sound.
This function does not work for monaural sound.

1-8. TROUBLESHOOTING

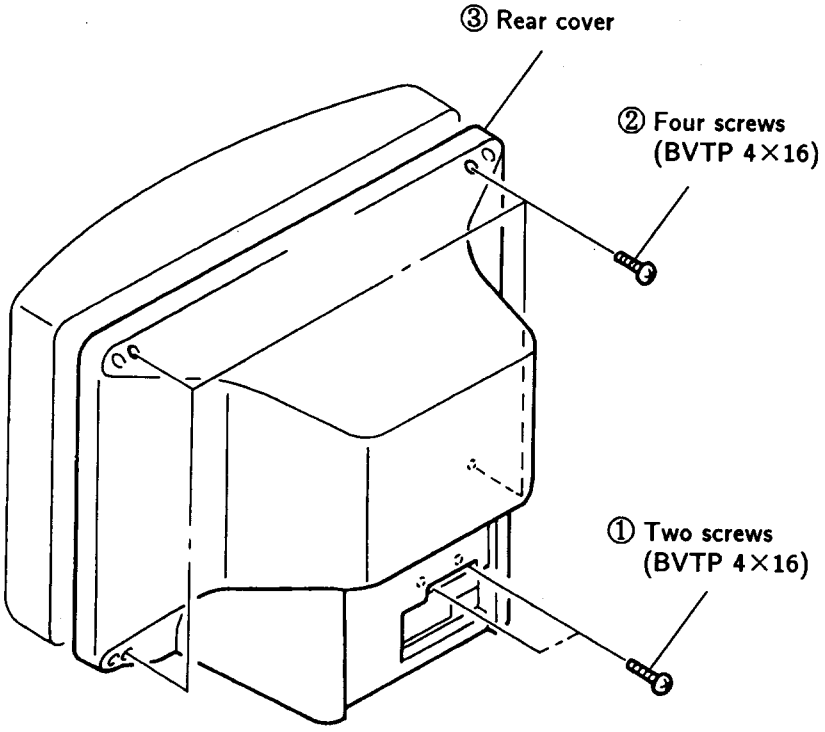
If you have any problem, check the countermeasure for each symptom listed below.
If the problem still cannot be solved, contact your nearest service facility.

Symptom	Countermeasure
Snowy picture Noise (sound interference)	• Check the antenna position. • Check antenna/cable connections on the TV or wall. • Check the TV SYSTEM setting. • Fine-tune the channel manually.
Dotted lines or stripes	This is often caused by local interference (for example, cars, neon signs, hairdryers etc.). Adjust the antenna for minimum interference.
Double images or 'ghosts'	Reflections from nearby mountains or buildings often cause this problem. Connecting a highly directional outdoor antenna may improve the picture.
Good picture Noise (sound interference)	• Check the TV SYSTEM setting.
No picture No sound	• Check the power cord connection. • Make sure POWER is switched on. • Check the antenna connection. • Check the VTR connections.
Good picture No sound	• Press VOLUME +. • Press MUTE. • Check the VTR connections.
No color Abnormal color	• Check the COLOR SYSTEM setting. • Adjust the color intensity. • Check the TV SYSTEM setting. • This is often caused by incomplete tuning. Try presetting directly.
Poor or no picture, good sound	• Adjust brightness, color intensity or picture contrast. • Press PIC MODE. • Check VTR connections.

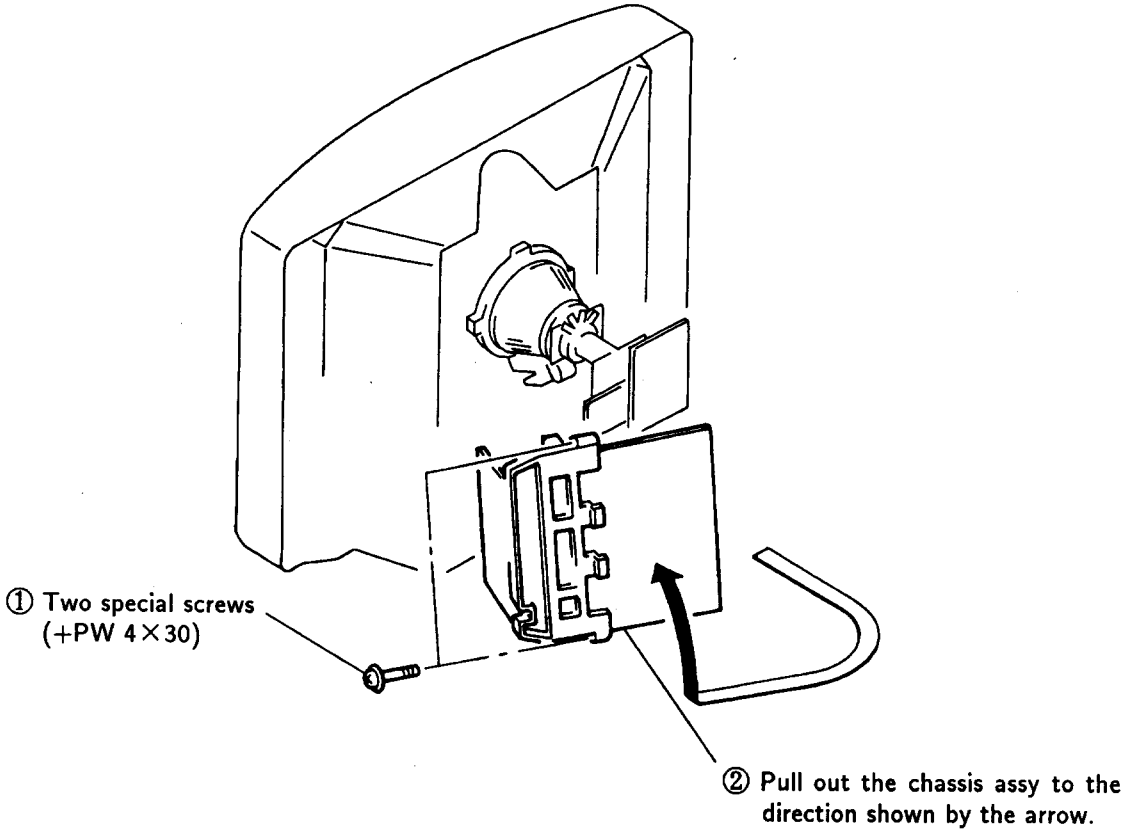
SECTION 2

DISASSEMBLY

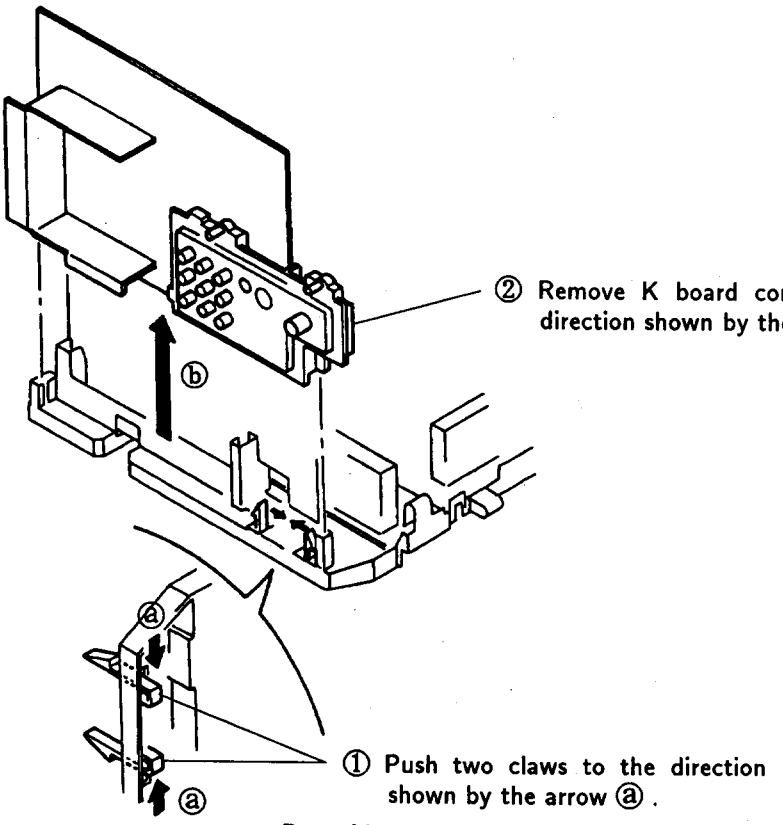
2-1. REAR COVER REMOVAL



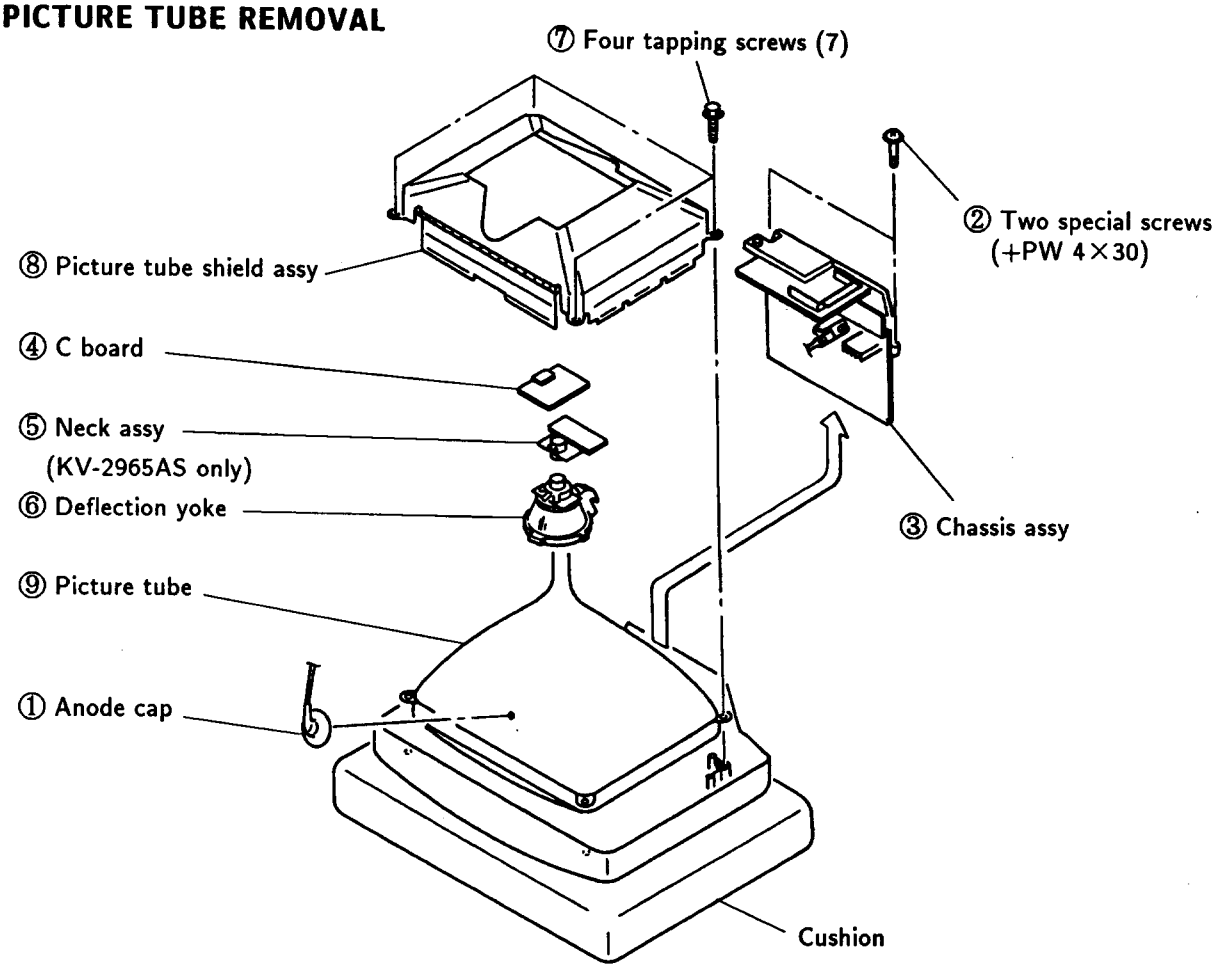
2-2. SERVICE POSITION



2-3. K BOARD REMOVAL


② Remove K board complete to the direction shown by the arrow ⓑ .
ⓑ
ⓐ
① Push two claws to the direction shown by the arrow ⓐ .
Rear side

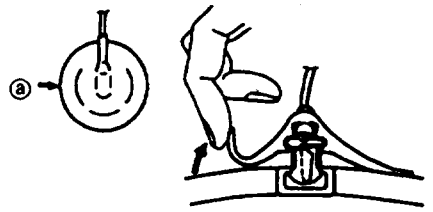
2-4. PICTURE TUBE REMOVAL



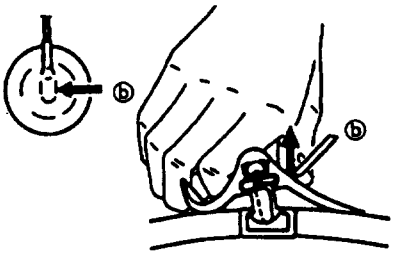
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT chield or carbon painted on the CRT, after removing the anode.

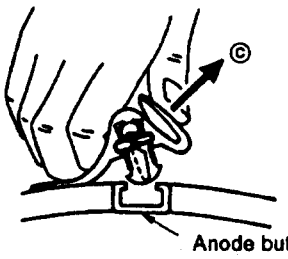
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



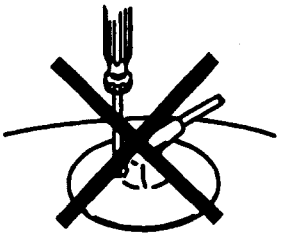
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

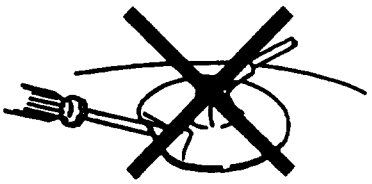
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The control and switch below should be set as follows unless otherwise noted :

PICTURE control ..... normal

BRIGHTNESS control ..... normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note: Test Equipment Required.

1. Color-bar Pattern Generator
2. Degausser
3. Digital multimeter

Preparations :

- Feed in the white pattern signal.
- Before starting degauss the entire screen.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast, Bightness } normal
2. Position neck ass'y as shown in Fig 3-2. (29 inch only)
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig. 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Fig. 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig. 3-4.)

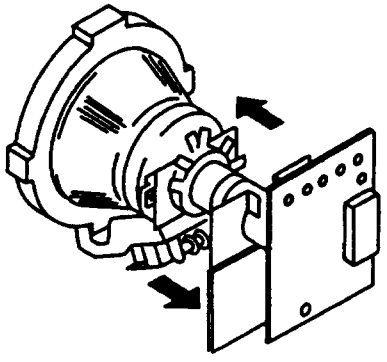


Fig. 3-1

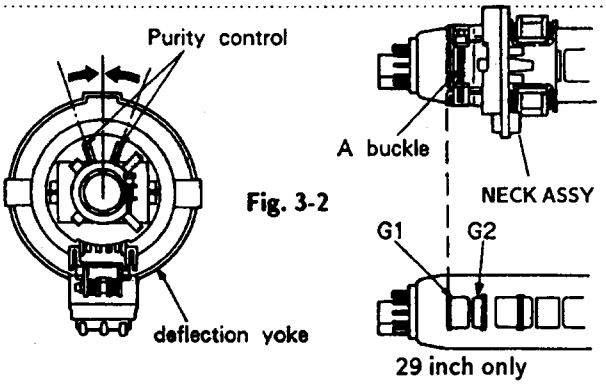


Fig. 3-2

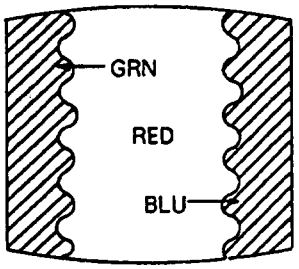


Fig. 3-3

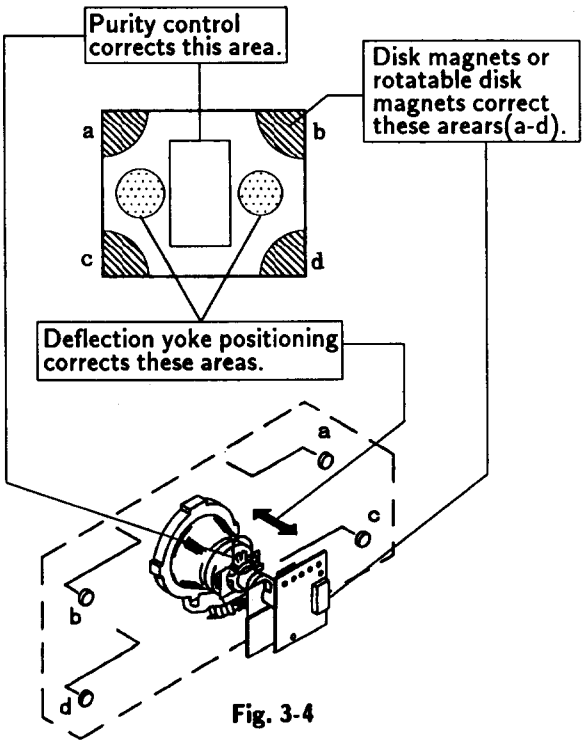


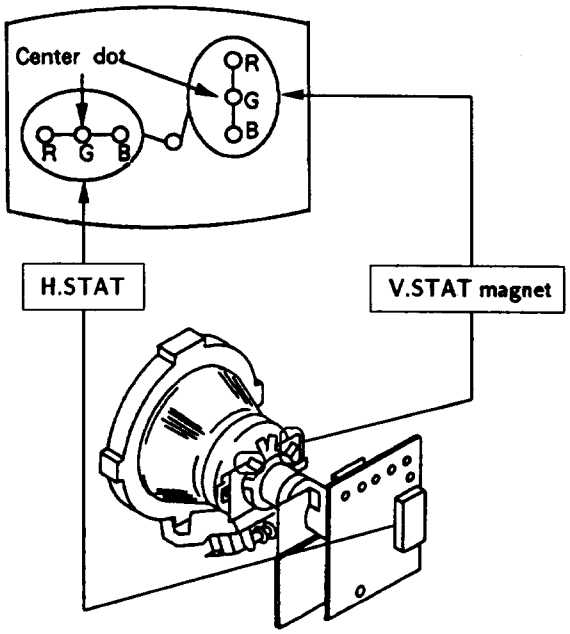
Fig. 3-4

3-2. CONVERGENCE

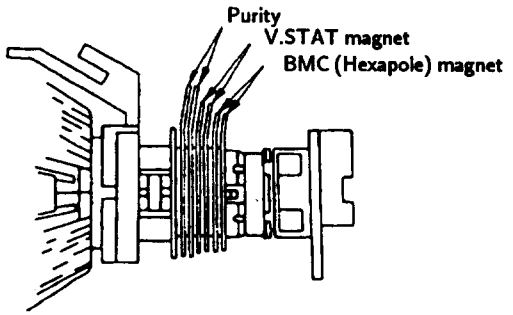
Preparations :

- Before starting perform FOCUS, H.SIZE, V.LIN and V.SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in dot pattern.

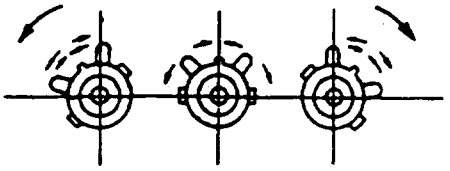
(1) Horizontal and Vertical Static Convergence



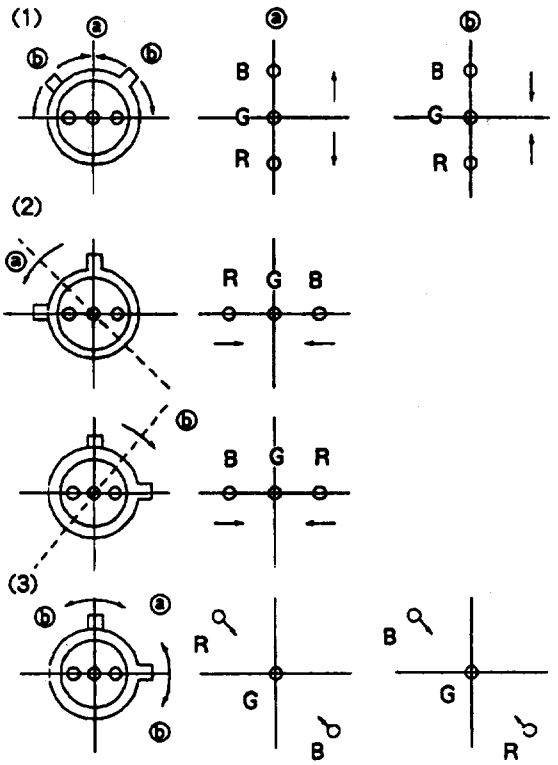
1. Adjust H.STAT VR to converge red , green and blue dots in the center of the screen. (Horizontal movement)
2. Adjust V.STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
3. If the red, green and blue dots do not coverge in the center of the screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below.(In this case,H.STAT VR and V.STAT magnet effect each other.)



- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4. When the V.STAT magnet is moved in the direction of arrow ⓐ and ⓑ ,red, green and blue dots move as shown below.

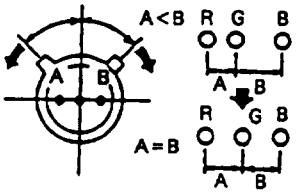


If the blue dot do not Converge with red and green dots, perform following steps.

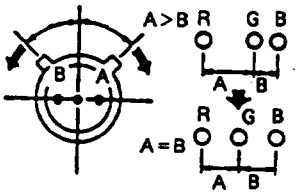
- HMC and VMC correction for BMC (Hexapole) Magnet.

1. HMC (Horizontal Miss Convergence) correction and motion of the Electron Beam with the BMC Magnet.

HMC correction (A)

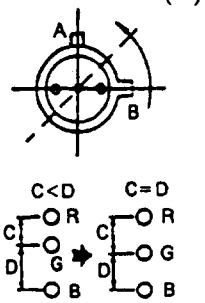


HMC correction (B)

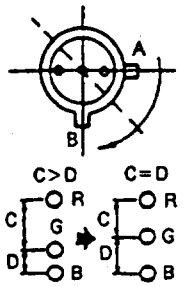


2. VMC (Vertical Miss Convergence) correction and motion of the Electron Beem with the BMC Magnet.

VMC correction (A)



VMC correction (B)

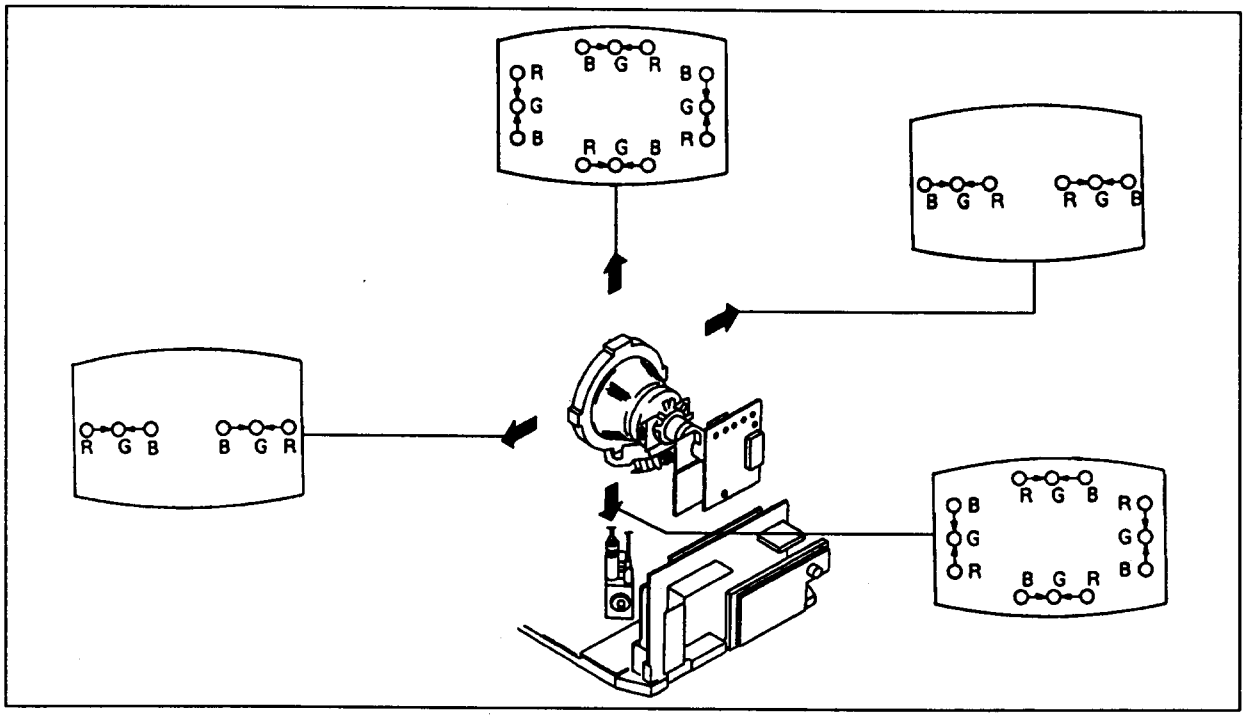


(2) Dynamic Convergence Adjustment

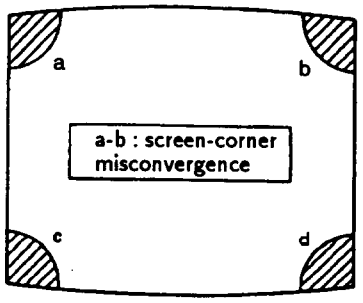
Preparations :

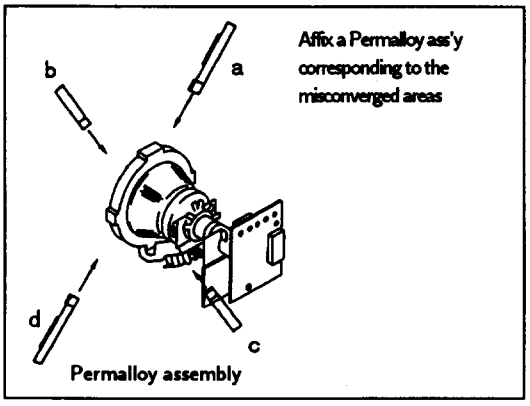
● Before starting perform Horizontal and Vertical static convergence Adjustmet.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



(3) Screen -corner Convergence





3-3. FOCUS

Adjust FOCUS control for best picture.

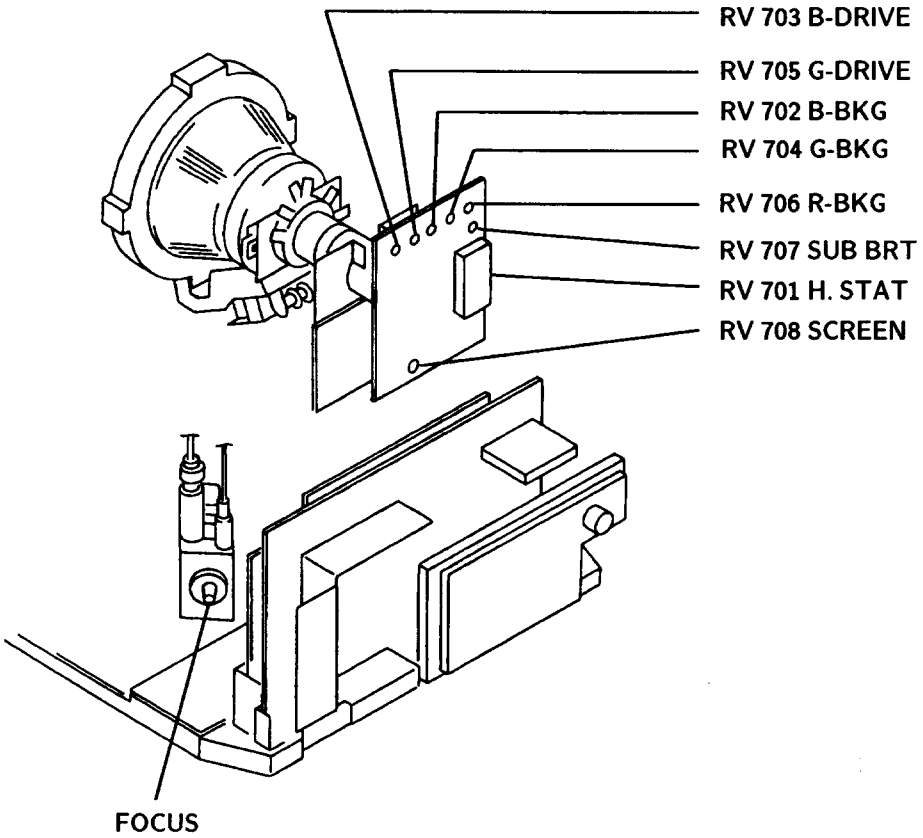
3-4. SCREEN(G 2) and WHITE BALANCE

[SCREEN(G2)]

1. Input dots patteren.
2. Set the PIC control at minimum and set the BRT control at maximum.
3. Confirm the BKG voltage is less than 180Vdc when turning RV706 (R.BKG), RV704 (G.BKG) and RV 702 (B.BKG).
4. Note the color when becomes visible first when turning RV708 (SCRN).

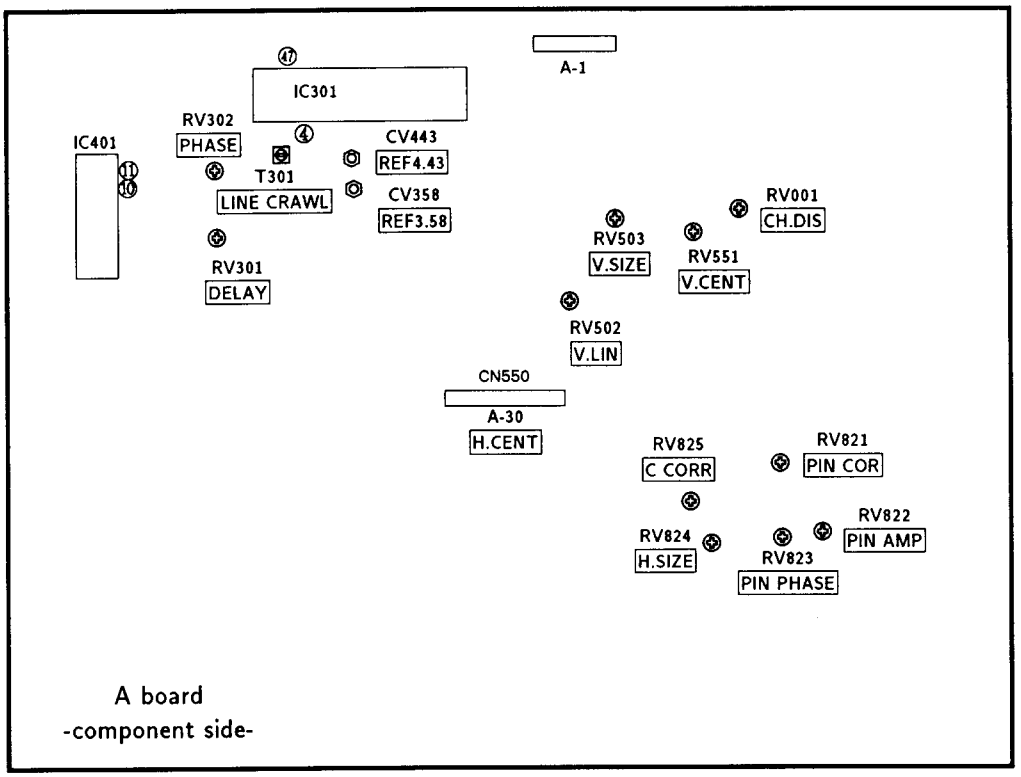
[WHITE BALANCE (Cut off)]

1. Input collor bar signl.
2. Set the PIC control to minimum and set the BRT control at normal.
3. Turn RV703 (B.DRIVE) and RV705 (G.DRIVE) fully clockwise.
4. Set RV706 (R.BKG), RV704 (G.BKG) and RV702 (B.BKG) to minimum.
5. Turn RV707 (SUB BRT) slowly to obtain a faintly visible blue stripe.
6. Switch over all white signal.
7. Adjust BKG controls for best white balance.
8. Set the PICTURE control to maximum. Observe the screen and adjust the DRIVE controls for best white balance.
9. Repeat steps 7 and 8.



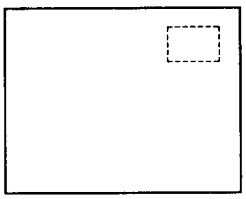
SECTION 4
CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENTS



Channel display POSITION ADJUSTMENT (RV001)

1. Set PIC control to maximum.
2. Adjust RV001 so that the channel display should be positioned at up-right on the screen.



A • P • C ADJUSTMENT (CV443) (PAL)

1. Input the PAL color-bar signal.
2. Set the PIC, COL, and BRT controls to normal.
3. Short circuit between pin ④ and pin ⑰ of IC301 with jumper.
4. Adjust CV443 for suitable color intensity.
5. Remove a jumper.

REF OSC 3.58 ADJUSTMENT (CV358) (NTSC 3.58)

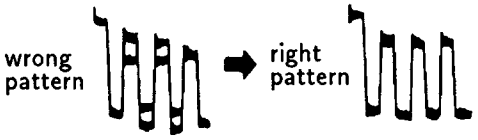
1. Short circuit between pin ④ and pin ⑰ of IC301 with a jumper.
2. Set the PIC, COL and BRT controls to normal.
3. Input NTSC 3.58 color-bar signal.
4. Adjust CV358 for suitable color intensity.
5. Remove the jumper.

ANTI PAL, LINE CRAWLING ADJUSTMENT (RV301,RV302,T301)

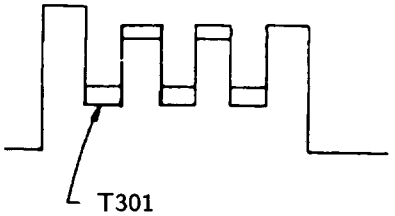
• ANTI PAL ADJUSTMENT

1. Input PAL color-bar signal.
2. Set the PIC, COL and BRT controls to normal.
3. Connect the oscilloscope to pin ③ of A-1 connector.
4. Adjust RV301 (DELAY) and RV302 (PHASE) to obtain the waveform as shown below.

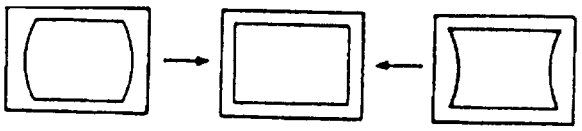
• LINE CRAWLING ADJUSTMENT



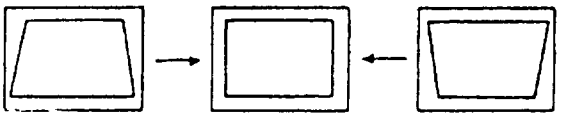
1. Input the PAL color-bar signal.
2. Set the PIC, COL and BRT controls to normal.
3. Connect the oscilloscope to pin ③ of A-1 connector.
4. Adjust T301 for minimum line crawling.



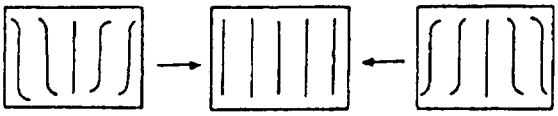
RV822 PIN ANP (PINCUSHION AMPLIFIER)



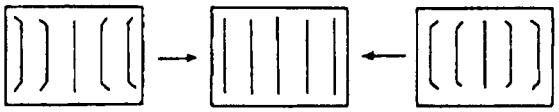
RV823 PIN PHASE (PINCUSHION PHASE)



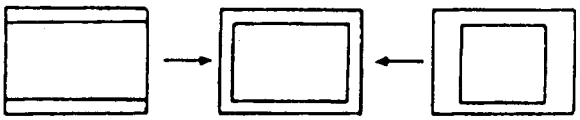
RV821 PIN COR (PINCUSHION CORRECT)



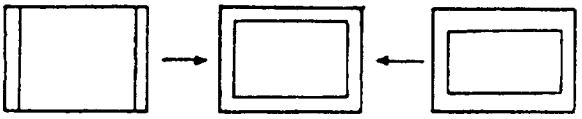
RV825 C.CORR(CORNER CORRECT)



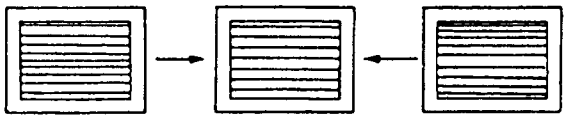
RV824 H.SIZE (HORIZONTAL SIZE)



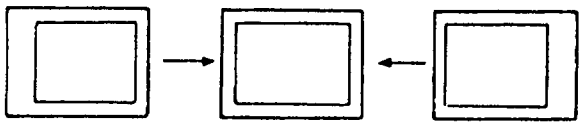
RV503 V.SIZE (VERTICAL SIZE)



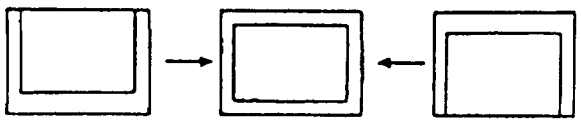
RV502 V.LIN (VERTICAL LINEARITY)



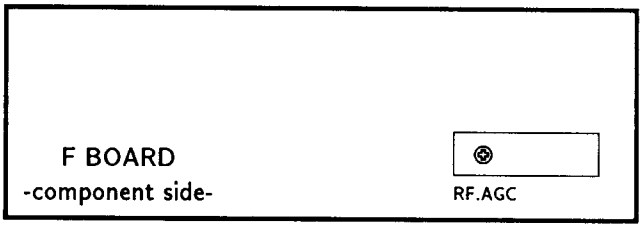
CN550 H.CENT (HORIZONTAL CENTER)



RV551 V.CENT (VERTICAL CENTER)



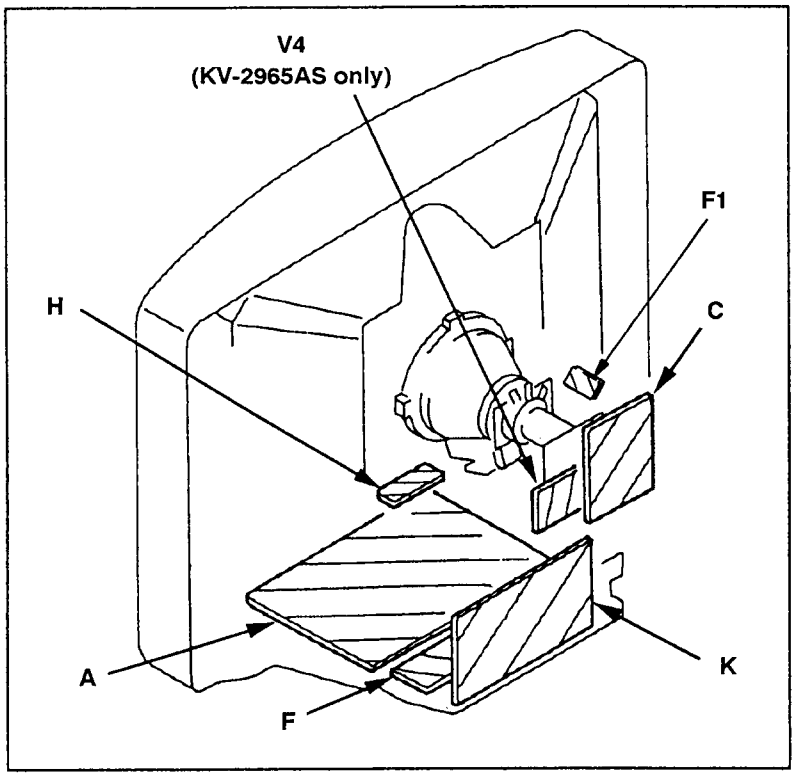
4-2. F BOARD ADJUSTMENT



RF AGC ADJUSTMENT (IF1)

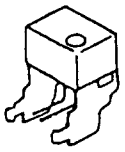
1. Receive a strong off-air signals.
2. Adjust RF AGC VR control so that snow noise and cross-modulation just disappear from the picture.

5-2. CIRCUIT BOARDS LOCATION

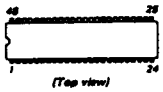


5-4. SEMICONDUCTORS

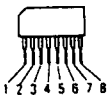
BX1398
KEY-C00SV



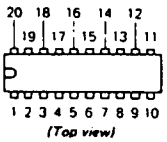
CXA1213BS



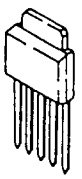
LA7016



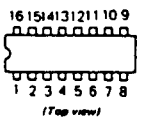
LM1036N



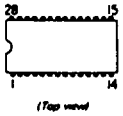
L78LR05D-MA



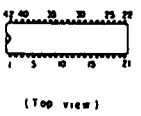
MC14052BCP
TDA8444



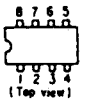
MC14066BCP
MC33079P



PCA84C840P/054

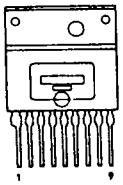


RC4558P
ST24C01B1
μPC4558C
TEA2031A



TA78L09S

STR-S5741



TA7812S
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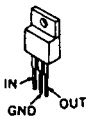
μPC7893AHF



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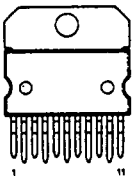

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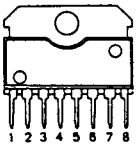

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DTC124ES
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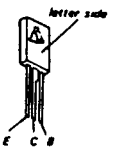

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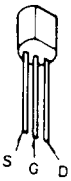

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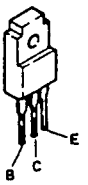

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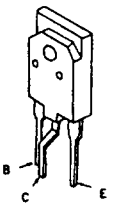

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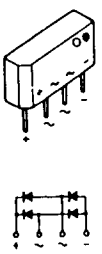

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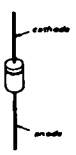

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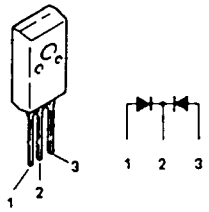

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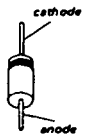

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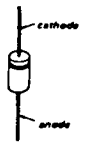
ES1F-N
GP08D
RGP10G
R2K-V1



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MC932

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RD11ES-B
RD11ES-B2
RD13ES-B3
RD39ES-B2
RD5.1ES-B2
RD5.6ES-B2
RD6.2ES-B2
RD6.8ES-B3
RD7.5ES-B1
RD7.5ES-B3
RD9.1ES-B1
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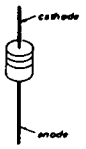

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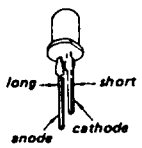
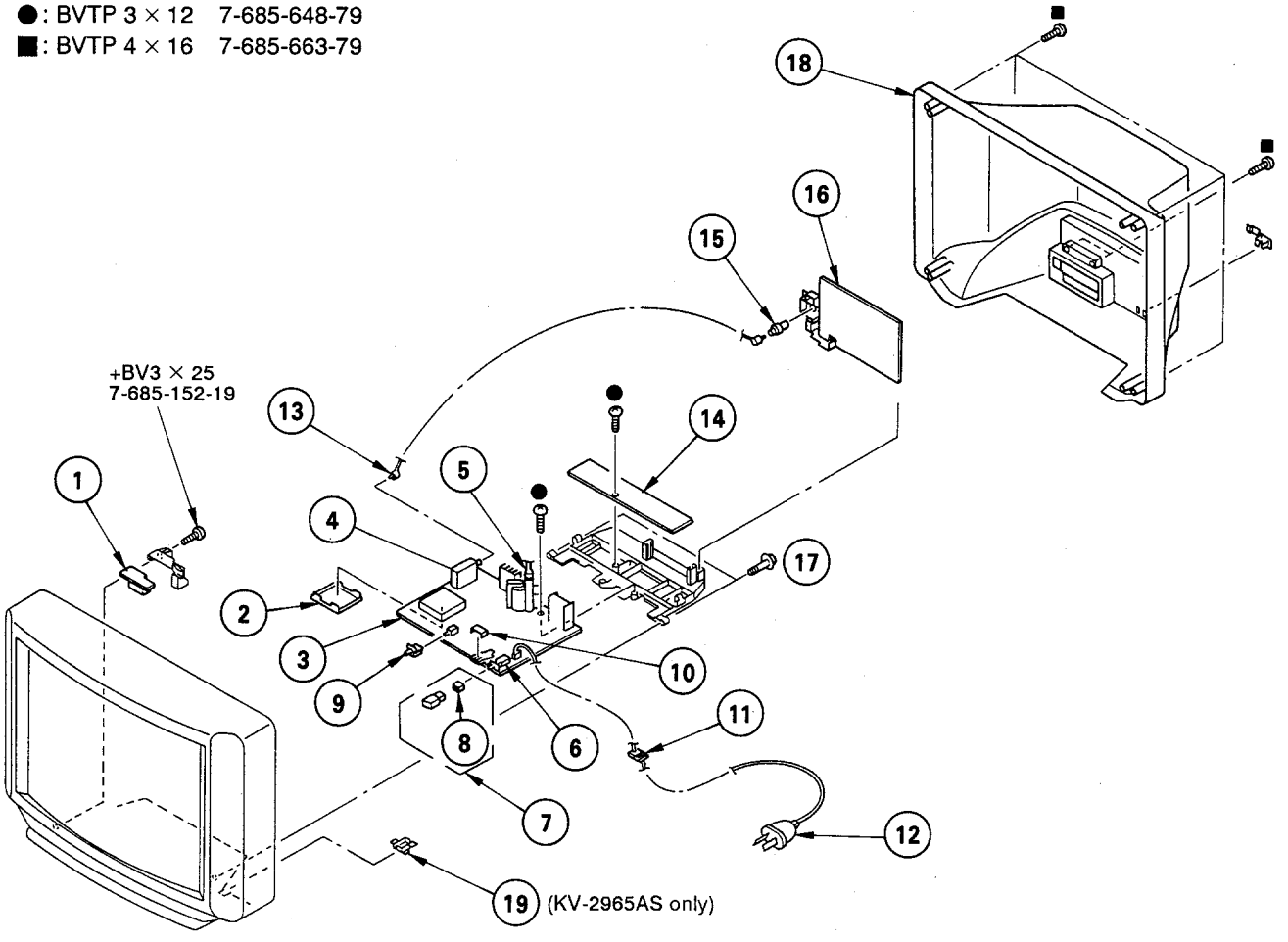


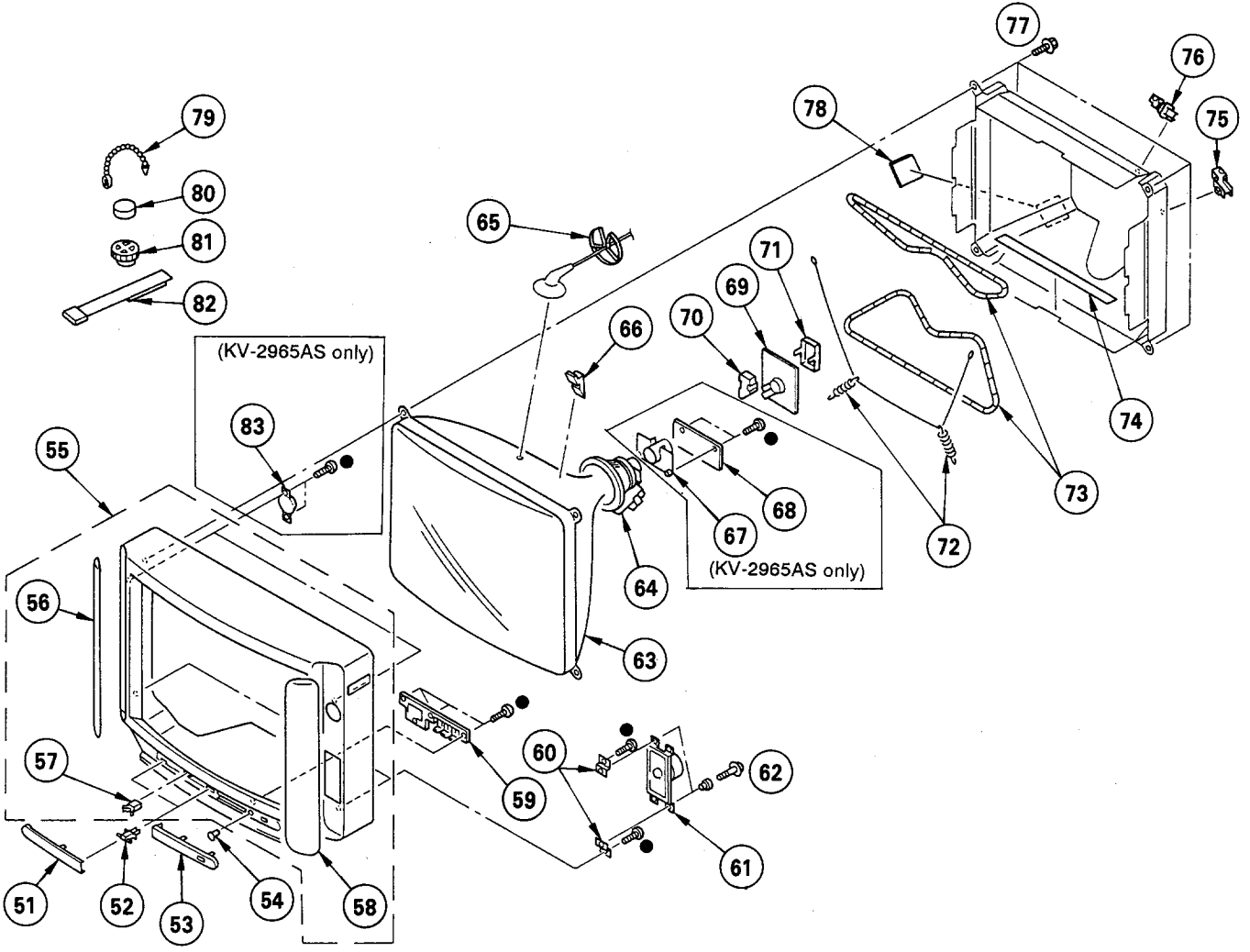
6-1. CHASSIS

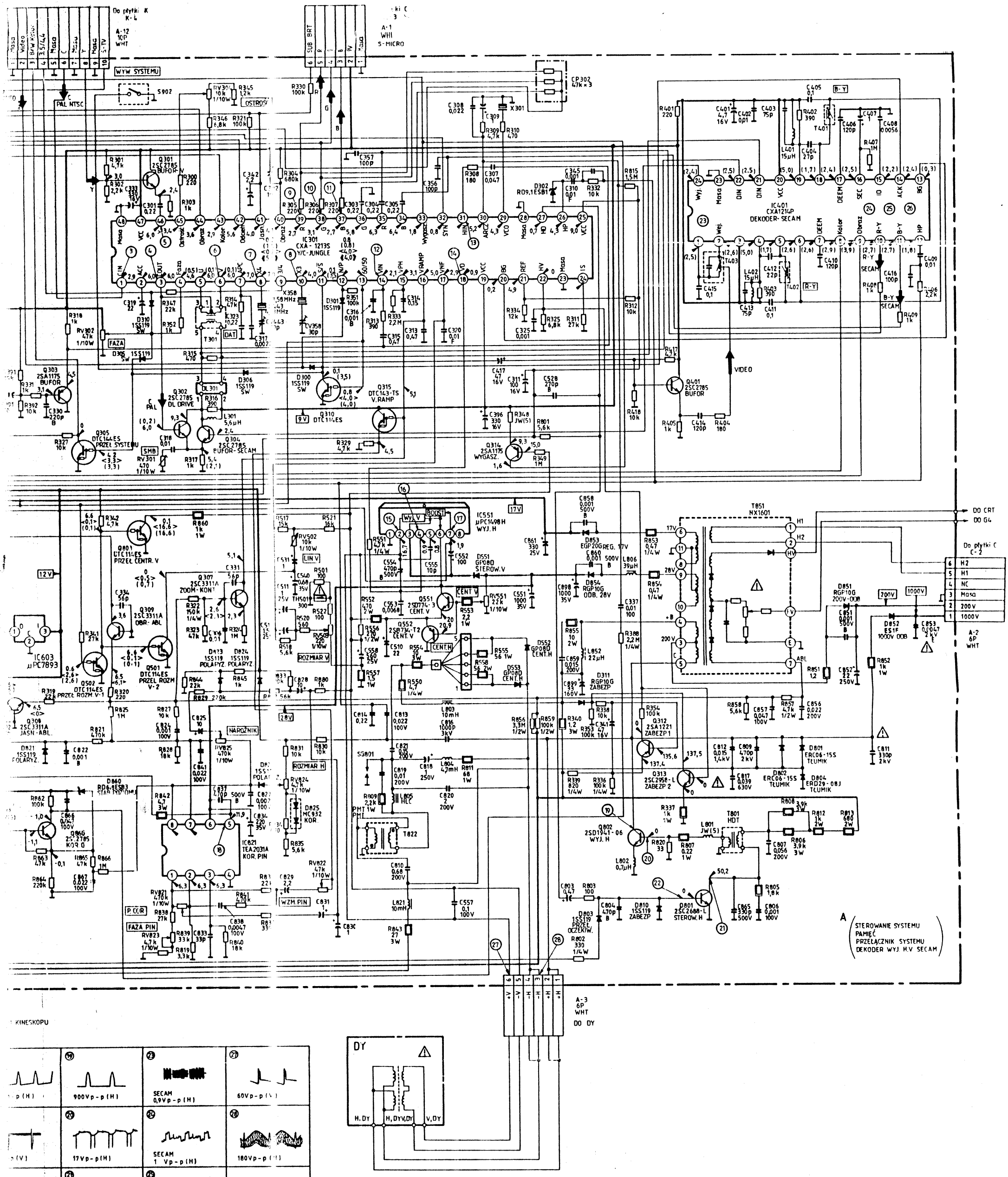
●: BVTP 3 × 12 7-685-648-79
■: BVTP 4 × 16 7-685-663-79



6-2. PICTURE TUBE

●: BVTP 3 × 12 7-685-648-79

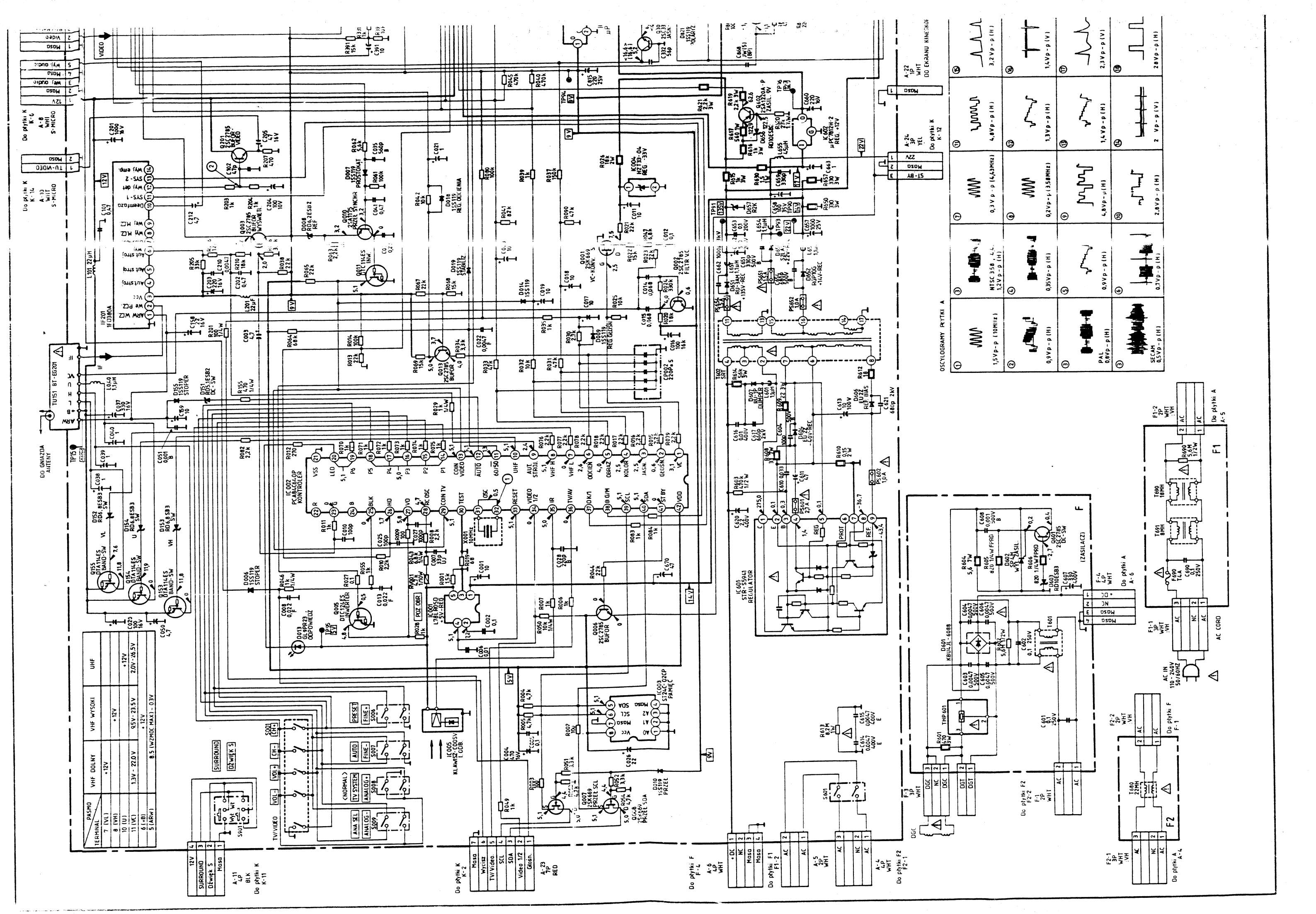


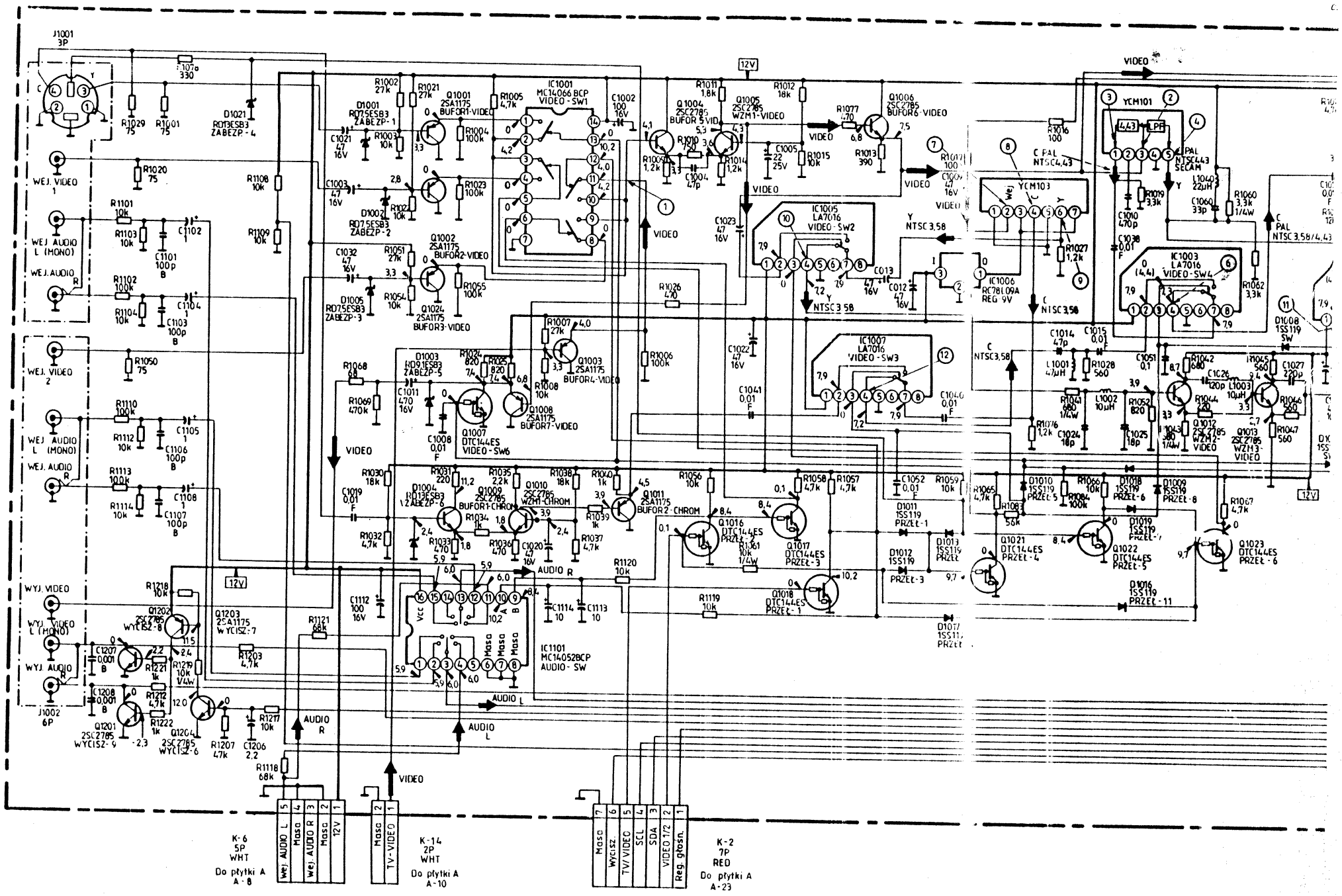


KINESKOPU

p (H)	⑲ 900Vp-p (H)	㉓ SECAM 0,9Vp-p (H)	㉗ 60Vp-p (V)
p (V)	⑳ 17Vp-p (H)	㉔ SECAM 1 Vp-p (H)	㉘ 180Vp-p (H)
p (V)	㉑ 100Vp-p (H)	㉕ SECAM 1,4Vp-p (H)	
(H)	㉒ 1,4Vp-p (H)	㉖ 3,6Vp-p (H)	

UWAGA:
SURROUND - efekt przestrzennego poszerzenia barwy dźwięku


OSCYLOGRAMY PŁYTKI A
Do płytki K K-6 A-8 WHT S-MICRO
Do płytki K K-14 A-10 WHT S-MICRO
DO GNIAZDA ANTENY
TU151 BT-60201
IF201 TF0380A
IC002 PCA84C640P KONTROLER
IC003 ST24C02CP PAMIĘĆ
IC004 H2T39-04 REG. -33V
IC005 KLAWISZ C005V 1.00B
IC601 STR S5941 REGULATOR
IC602 µPC7812H-2 REG. +12V
TUNER
SURROUND
DŹWIĘK S
Do płytki K K-11
A-11 4P BLK
Do płytki K K-2
A-23 7P RED
Do płytki F F-4
A-6 4P WHT
Do płytki F F1-2
A-5 2P WHT
Do płytki F2 F2-1
A-4 4P WHT
Do płytki F F1-1
A-3 3P WHT
Do płytki F2 F2-2
A-2 2P WHT
Do płytki A A-5
Do płytki A A-6
Do płytki A A-4
AC CORD
AC IN 110 - 240V 50/60HZ
DO EKRANU KINESKOPU
A-22 1P WHT
A-24 3P YEL
Do płytki K K-12
F1 F2
F1-1 3P WHT VH
F1-2 2P WHT VH
F2-1 3P WHT VH
F2-2 2P WHT VH
F3 3P WHT
F4 4P WHT
(ZASILACZ)
TERMINAL
PASMO
VHF DOLNY
VHF WYSOKI
UHF
7 (VL)
8 (VH)
10 (U)
11 (K)
6 (-8)
5 (ARW)
+12V
9.5V - 23.5 V
2.0V - 26.5V
8.5 (WZMOC MAXI - 0.3V



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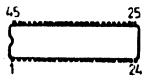

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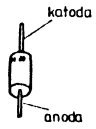

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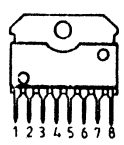

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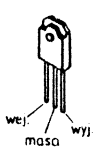

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RD10ES-T1B3
RD13ES-T1B3
RD51ES-T1B2
RD56ES-T1B2
RD62ES-T1B2
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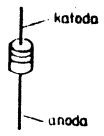
RD75ES-T1B3
RD91ES-T1B1
RD91ES-T1B2
RD9.1ES-T1B3
1SS119



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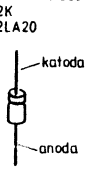

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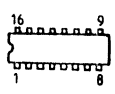

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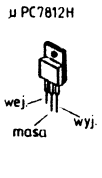

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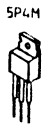

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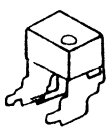

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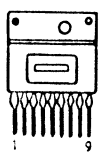

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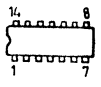

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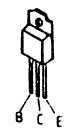

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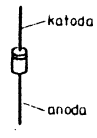
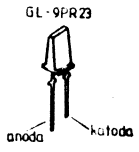
RU-1P
RU-3AM



GL-9PR23



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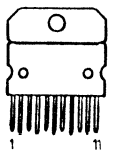

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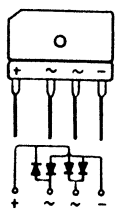

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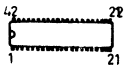

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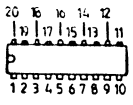

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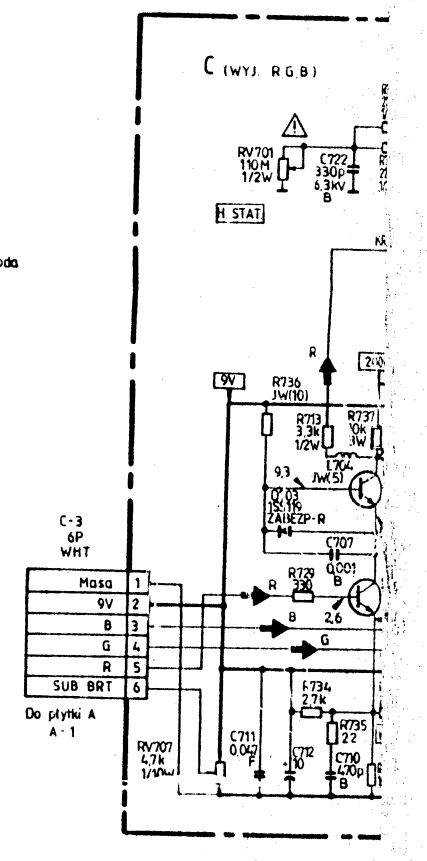
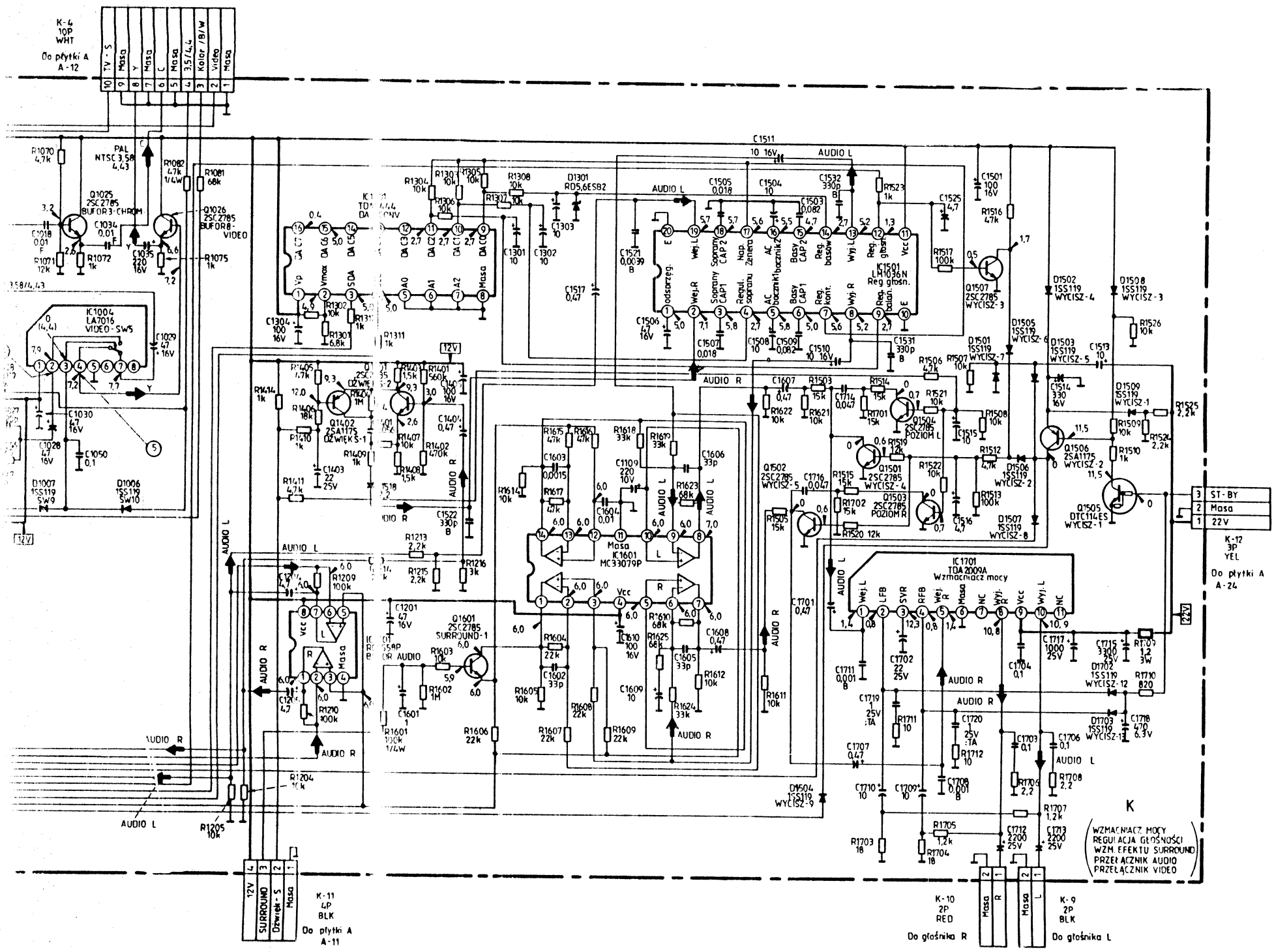
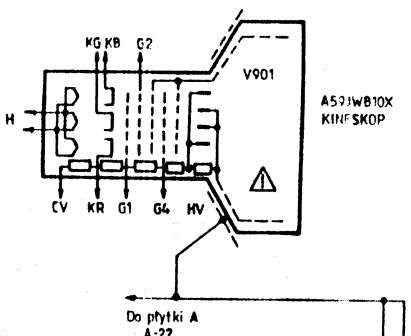
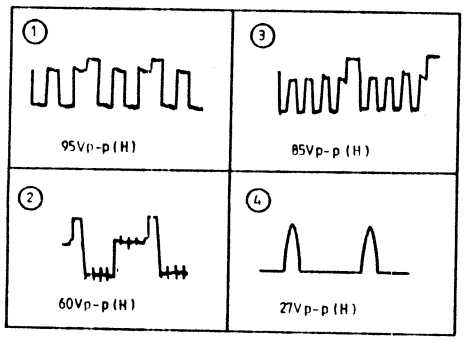






OSCYLOGRAMY PŁYTKI C



OSCYLOGRAMY PŁYTKI K